

# **LITHOGRAPHIC ACTUATOR MECHANISM, LITHOGRAPHIC APPARATUS, AND DEVICE MANUFACTURING METHOD**

## **ABSTRACT**

Lorentz actuators generate heat due to electrical dissipation in the field coils. As the field through the coils changes, eddy currents are induced in cooling elements leading to undesirable damping forces and heating. The present invention provides an improved design that reduces eddy currents by incorporating slits in the cooling element. Slits are preferably perpendicular to the induced electric field and parallel to each other, and reduce the magnitude of the eddy currents by forcing them to take paths of higher electrical resistance.